Is It a Fair Test?

1. Dan wanted to find out if his cookies would taste better with more sugar. So he added ½ cup extra sugar, some more chocolate chips, and some walnuts. His friends liked the new cookies much better.  
“I was right!” Dan said. “More sugar does make cookies taste better.”

Is this a fair test? Why or why not?  
If it isn’t fair, what could be changed to make it fair?

2. Jessica thought her dog was color-blind. To find out, she divided his food into a red bowl, a green bowl, and a blue bowl. She lined up the dishes in front of her dog. For one week, she kept track of which bowl the dog ate his dinner from. Here is her data:

Monday: Red  
Tuesday: Blue  
Wednesday: Red  
Thursday: Green  
Friday: Green, changed to blue  
Saturday: Red  
Sunday: Blue

Jessica decided that her dog was color-blind.

Is this a fair test? Why or why not?  
If it isn’t fair, what could be changed to make it fair?

3. Courtney’s mom kept a plant in a basket on the kitchen counter. Courtney accidentally spilled Jello in the dirt. She soon noticed that the plant seemed bigger and healthier. She wondered if the Jello had anything to do with it.  
To find out, Courtney planted three bean seeds in each of two pots. She put them both on the windowsill, and watered them both every day. In one, she sprinkled Jello on the dirt.

In three weeks, the plants in the pot with the Jello averaged 12 cm tall. The plants in the pot without the Jello were an average of 8 cm tall. Courtney concluded that the Jello had made the plants healthier.

Is this a fair test? Why or why not?  
If it isn’t fair, what could be changed to make it fair?